

(C) Site history; and

(D) Engineering design of the CCR unit.

(2) If the owner or operator elects to install a multiunit groundwater monitoring system, and if the multiunit system includes at least one existing unlined CCR surface impoundment as determined by OAC 252:517-11-2(a), and if at any time after October 19, 2015 the owner or operator determines in any sampling event that the concentrations of one or more constituents listed in Appendix B to this Chapter are detected at statistically significant levels above the groundwater protection standard established under OAC 252:517-9-6(h) for the multiunit system, then all unlined CCR surface impoundments comprising the multiunit groundwater monitoring system are subject to the closure requirements under OAC 252:517-15-6(a) to retrofit or close.

(e) **Monitoring wells.** Monitoring wells must be constructed in accordance with OAC 252:517-7-3.

(1) The owner or operator of the CCR unit must document and include in the operating record the design, installation, development, and decommissioning of any monitoring wells, piezometers and other measurement, sampling, and analytical devices. The qualified professional engineer must be given access to this documentation when completing the groundwater monitoring system certification required under paragraph (f) of this Section.

(2) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to the design specifications throughout the life of the monitoring program.

(f) **PE certification.** The owner or operator must obtain a certification from a qualified professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of this Section. If the groundwater monitoring system includes the minimum number of monitoring wells specified in paragraph (c)(1) of this Section, the certification must document the basis supporting this determination.

(g) **DEQ approval required.** A plan meeting the requirements of this section must be submitted to DEQ for approval prior to installation of the groundwater monitoring system.

(h) **Recordkeeping.** The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in OAC 252:517-19-1(h), the notification requirements specified in OAC 252:517-19-2(h), and the internet requirements specified in OAC 252:517-19-3(h).

[Source: Added at 33 Ok Reg 1469, eff 9-15-16]

### 252:517-9-3. [RESERVED]

[Source: Reserved at 33 Ok Reg 1469, eff 9-15-16]

### 252:517-9-4. Groundwater sampling and analysis requirements

(a) **DEQ approval required.** A groundwater monitoring program shall be established and a plan submitted to the DEQ

for approval. The plan must include information required by (b) through (j) of this Section.

(b) **Sampling and analysis procedures.** The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells required by OAC 252-517-9-2. The owner or operator of the CCR unit must develop a sampling and analysis program that includes procedures and techniques for:

- (1) Sample collection;
- (2) Sample preservation and shipment;
- (3) Analytical procedures;
- (4) Chain of custody control; and
- (5) Quality assurance and quality control.

(c) **Sampling and analytical methods.** The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. For purposes of OAC 252:517-9-1 through OAC 252:517-9-9, the term constituent refers to both hazardous constituents and other monitoring parameters listed in either Appendix A or B of this Chapter.

(d) **Groundwater elevation.** Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator of the CCR unit must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same CCR management area must be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction.

(e) **Establish background.** The owner or operator of the CCR unit must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the constituents required in the particular groundwater monitoring program that applies to the CCR unit as determined under OAC 252:517-9-5(a) or OAC 252:517-9-6(a). Background groundwater quality may be established at wells that are not located hydraulically upgradient from the CCR unit if it meets the requirements of OAC 252-517-9-2(a)(1).

(f) **Number of samples.** The number of samples collected when conducting detection monitoring and assessment monitoring (for both downgradient and background wells) must be consistent with the statistical procedures chosen under paragraph (g) of this Section and the performance standards under paragraph (g) of this Section. The sampling procedures shall be those specified under OAC 252:517-9-5(b) through (d) for detection monitoring, OAC 252:517-9-6(b) through (d) for assessment monitoring, and OAC 252:517-9-7(b) for corrective action.

(g) **Statistical method.** The owner or operator of the CCR unit must select one of the statistical methods specified in paragraphs (g)(1) through (5) of this Section to be used in evaluating groundwater monitoring data for each specified constituent. The statistical test chosen shall be conducted separately for each constituent in each monitoring well.